**Linear Systems Applications – Alg II**

1. One unit of whole-wheat flour has 13.6 grams of protein and 2.5 grams of fat. One unit of whole milk has 3.4 grams of protein and 3.7 grams of fat. Find the number of units of whole wheat flour and the number of units of whole milk that must be used to make dough that has 75 grams of protein and 15 grams of fat.
2. Aubrie the veterinarian has an average of 34 cats and dogs in the hospital. The cats each eat one-half can of food per day and the dogs each eat one and one-half cans per day. For each day, the animals together eat 36 cans of food. How many cats and dogs are in the hospital?
3. Gracie & Joey are reading the same book. Gracie reads 1/3 page per minute and Joey reads ¾ page per minute. Gracie has already read 70 pages and Joey has read 30 pages. If they both resume reading together, eventually Joey will catch up to Gracie. On what page will that occur? How many minutes have they read when Joey catches Gracie?
4. Kelsey the chemist mixes a 30% chlorine solution with pure water to dilute a mixture. How much chlorine solution and how much water must be mixed to make 20 mililiters of a 10% chlorine solution?
5. Mr Marshall brought his monkeys and Ms Noonan brought her orangutans to live in a primate habitat. There are 18 monkeys and orangutans altogether. Mr Marshall’s monkeys each eat 5 bananas a day. Ms Noonan’s orangutans each eat 8 bananas a day. Each day the primates eat a total of 111 bananas. How many monkeys does Mr Marshall have and how many orangutans does Ms Noonan have?
6. After a wakeboarding lesson, Coleman the instructor takes his class to the Watering Hole for beverages on him. He pays $26 for 8 large and 4 small juice drinks. A large glass costs $1 more than a small glass. What is the cost of both sizes of juice drink?